WHAT IS CLAIMED IS:

1.   Equipment for calculating a mobile handset position by using a cellular radio wave, comprising:

a signal receiver for receiving a cellular radio wave to generate a reception signal;

a position calculation information generator for generating position calculation information necessary for position calculation by using the reception signal;

a base station selection unit for selecting base stations available for position calculation according to the position calculation information;

a base station number counter for counting the number of base stations selected by the base station selection unit;

a position calculation method controller for generating, according to the number of selected base stations, a position calculation method control signal to control the position calculation method;

a position calculation unit for calculating, according to the position calculation method specified by the position calculation method control signal, the mobile handset position from the position calculation information and the information on the base stations selected by the base station selection unit; and

a position information application unit for using the mobile handset position to provide a user with information.

2.   Equipment for calculating a mobile handset position according to claim 1, wherein

when the position calculation method control signal entered from the position calculation method controller corresponds to three or more base stations available for position calculation, the position calculation unit performs the position calculation based on trilateration;

when the position calculation method control signal corresponds to two base stations available for position calculation, the position calculation unit performs the position calculation by using a two-station-based position calculation unit; and

when the position calculation method control signal corresponds to one base station available for position calculation, the position calculation unit performs the position calculation by using a one-station-based position calculation unit.

3.   Equipment for calculating a mobile handset position according to claim 2, wherein the two-station-based position calculation unit has a base station positions averaging unit that calculates an average of positions of the two base stations available for position calculations and outputs the average as a position of the mobile hand set.

4.   Equipment for calculating a mobile handset position according to claim 2, wherein the two-station-based position calculation unit has a base station

positions weighted averaging unit that calculates an average of positions, weighted by a weight of each base station, of the two base stations available for position calculations and outputs the weighted average as a position of the mobile hand set.

5.   Equipment for calculating a mobile handset position according to claim 4, wherein the weighted averaging unit uses a function using a signal-to-noise ratio of the reception signal from each base station as a weight.

6.   Equipment for calculating a mobile handset position according to claim 4, wherein the weighted averaging unit uses a received power of the reception signal from each base station as a weight.

7.   Equipment for calculating a mobile handset position according to claim 2, wherein the two-station-based position calculation unit has:

        a base station information storage which holds the position calculation information and selects and outputs, from among the base stations used in past position calculations, position calculation information on a third base station different from first and second base stations selected by the base station selection unit; and

        a trilateration operation unit which performs the position calculation based on trilateration by using the position calculation information on the first, second and third base stations.

8.   Equipment for calculating a mobile handset position according to claim 2, wherein the one-station-based position calculation unit has a base station position output unit which outputs a position of one base station available for position calculation as the mobile handset position.

9.   Equipment for calculating a mobile handset position according to claim 2, wherein the one-station-based position calculation unit has:

        a base station information storage which holds the position calculation information and selects and outputs, from among the base stations used in past position calculations, position calculation information on second and third base stations different from a first base station selected by the base station selection unit; and

        a trilateration operation unit which performs the position calculation based on trilateration by using the position calculation information on the first, second and third base stations.

10.   Equipment for calculating a mobile handset position according to claim 1, wherein the position information application unit controls information to be provided to the user in addition to the mobile handset position according to the number of base stations selected by the base station selection unit.

11.   A method for calculating a mobile handset position by using a cellular radio wave, comprising the

steps of:

receiving a cellular radio wave to generate a reception signal;

generating position calculation information necessary for position calculation by using the reception signal;

selecting base stations available for position calculation according to the position calculation information;

counting the number of base stations available for the position calculation and, according to the number of available base stations, generating a position calculation method control signal to control a position calculation method; and

calculating, according to the position calculation method specified by the position calculation method control signal, the mobile handset position from the position calculation information and the information on the base stations selected by the base station selection unit.

12.   A method for calculating a mobile handset position according to claim 11, wherein

when the position calculation method control signal corresponds to three or more base stations available for position calculation, the position calculation is performed based on trilateration;

when the position calculation method control signal corresponds to two base stations available for

position calculation, the position calculation is performed by using a two-station-based position calculation method; and

when the position calculation method control signal corresponds to one base station available for position calculation, the position calculation is performed by using a one-station-based position calculation method.